Larin, B. A. Thermal Properties of Invar Measuring Wires 12

Modern triangulation techniques require the highest degree of accuracy in measuring base lines. In the USSR, the commonly accepted 24 m. long invar or super-invar wires show little change in thermal coefficients with time, or thermal after-effects on the length of the wire. Invar wires can now be manufactured with temperature coefficients of equal value but of opposite sign.

Entin, I.I. Basis Systematic Errors in Precision Leveling 16

The systematic errors in precision leveling are vertical displacements of the markers and of the tripod, and changes in the angle between the line of sight and the bubble axis due to the effect of temperatures. Other errors caused by non-vertical position of the rods, etc. are noted, and means for correcting them are recommended. In precision leveling the computed systematic error is $\pm$ 0.05 mm per kilometer.

Sinyagina, M. I. Preliminary Findings in the Study of Vertical Displacement of the Earth's Crust Through Repeat Leveling

There is a considerable number of repeat leveling traverses in the European part of the USSR, run to obtain a vertical control grid of the entire USSR. The western part of European USSR, circumscribed by the Baltic, Black and Azov seas, is more thoroughly covered by observations and as such was selected for the study of uplifts. The necessary material was selected, systematized and properly computed. To this study of 20,000 km of traverses, were added other geodetic data including oceanographic and geo-morphological material; 82% of all the traverses proved to be reliable. The recent rate of uplift is -5 to + 10 mm per annum, determined to an accuracy of 2 mm per annum.

Card 5/12

The International Association of Geodesy (Cont.)

Pellinen, L. P. The Effect of Refraction on Angular Measurements

The main source of systematic errors in triangulation work is laterial (horizontal) refraction. In observation during one night or day, the errors vary between $\pm$ 0.5 - 0.7. Under unfavorable conditions there may appear other errors of the same order. The greatest of these is caused by refraction while measuring traverses in cities, when the line of sight passes close to and parallel to the wall of a large building. The accepted technique of triangulation in USSR and the adopted methods of adjustments minimize the effects of refraction.

Belyayev, N.A. A Photoelectric Device for Field Astronomical Measurements 26

The described photoelectric system designed to record the passage time of stars is attached to the AU 2/10 astronomical vertical instrument (engineer's transit) and does not increase substantially the weight or bulk of a field party's equipment; it is

Card 6/12

The International Association of Geodesy (Cont.)

easy to control and permits making longitudinal and latitudinal determinations at first order stations without introducing human errors into the observations. Accuracy achieved is greater than usual and observations can be reduced in number.

Molodenskiy, M. S. New Methods in Studying the Earth's Figure 28

In relation to the Earth's gravitational field the figure of a geoid is not of single definition. To make it so, densities all over outside the geoid must be determined. The author worked out another way of investigating the Earth's figure, which excludes the necessity of knowing the density of masses outside the geoid.

Card 7/12

The International Association of Geodesy (Cont.)

Molodenskiy, M. S. Solution of the Stokes Problem With a Relative Error on the Order of the Square of the Earth's Oblateness 33

By applying Stokes' formula to an ellipsoid surface such accurate results are obtained, that the relative error is reduced to the order of the square of the oblateness.

Lyustikh, Ye. N. Abyssal Structure of the Earth's Crust in Indonesia Based on Gravity Data 34

Describing the geotectonics of Indonesia, and the seismicity and volcanism of the area, the author discusses the origin of the region, its structural setting and the existing geo-synclines and uplifts. He connects the belts of active and extinct volcanoes with two lines of the Inner Sunda and the Northern part of the Inner Celebes uplifts. The focal depths of earthquakes are greater than 50 km. Distribution of gravity anomalies and their quantitative

Card 8/ 12

interpretation does not fit into the Vening Meinesz picture, nor do the hypotheses of buckling, contraction, convection or horizontal displacements account for the real distribution of gravity anomalies.

Kruchinenko, V.G., Platonov, Yu.P., Sukhov, V. B.
Electromechanical Device for Computing the Mean Moments of the Passage of Stars During Observations 39

A photoelectric amplifier makes it possible to measure the duration of two parts of a contact (rectangular output signal) into which it is divided by a pulse from a clock. Computing the moment of a star's passage is accomplished by a formula given in the text. Observations could also be conducted of high magnitude stars producing deformed edges of the contacts. Means of increasing the efficiency of the device were also indicated.

Card 9/12

The comparison of fundamental and new absolute catalogues with FK3 permits finding in the latter considerable systematic errors of the type $\Delta\alpha\alpha$. Tables give comparative values for FK3 with Nikolayev (N30), GC and Pulkovo (Puα1) with respect to $\Delta\alpha_{\alpha}$. The observed errors have a tangible effect on the correction of time. It is pointed out that Washington determinations of time corrections are distinguished by their high accuracy.

Recent (1955-56) observations of the right ascension of stars made with a new 100 mm Zeiss transit instrument show much greater accuracy than those made with previous photoelectrical instruments. The probable observation error for one star, reduced to the equator, and the probable error of hourly corrections for ten stars

was much smaller than in the past. It is proposed to organize at Pulkovo, during the IGY, observations by two transit instruments covering more than 500 stars.

Fedorov, Ye. P. Computing the Coordinates of the Pole 60

The systematic errors in the coordinates of the Pole published by the Central Bureau of the International Latitude Service (ILS) are caused by an insufficient number (3-6) of observations. The regular latitude observations are now conducted at 13 stations and will be increased probably to more than 20 during the IGY. With a sufficiently large number of stations participating in this program, the inherently weak loop method of calculations is still the most acceptable as some difference in the systems of declinations at

various stations will not significantly affect the results. Mean latitudes are determined by A. Orlov's method.

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SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I.; pri uchastii Sinyaginoy, V.I.; BULANOV, A.I., red.; ROMANOVA, V.V., tekhn.red.

[Instructions for first, second, third and fourth class leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Izd. 2-oe, ispr. i dop. Moskva, Izd-vo geodez. lit-ry, 1957. 106 p. (MIRA 11:4)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.
(Leveling)

"The Achievements of Soviet Science in the Geodesy."

paper presented at the XIth General Assembly of the Int'l. Union of Geodesy and Geophysics, Tornoto, Canada, 3-14 Sept. 1957 (Izv. Ak Nauk SSSR - Ser Geog. 1958, No. 2, pp 3-8 [USSR]).

[redacted], M. I., and MESHCHERYAKOV, Yu. A.,

"The Study of Present Movements of the Earth Crust in the European Part of the USSR."

paper presented at the XIth General Assembly of the Int'l Union of Geodesy and Geophysics, Toronto, Canada, 3-14 Sept. 1957 (Izv. Ak Nauk SSSR - Ser. Geog. 1958, No. 2, pp 3-8 [USSR]).

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I.. Prinimala uchastiye SINYAGINA, V.I.. ROMANOVA, V.V., tekhn.red.

[Instructions for first-, second-, third-, and fourth-order leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Izd.3, ispr. i dop. Moskva, Izd-vo geod.lit-ry, 1959. 111 p. (MIRA 13:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.
(Leveling--Handbooks, manuals, etc.)

3(4) SOV/6-59-8-4/27

AUTHORS: Sinyagina, M. I., Candidate of Technical Sciences, Orlenko, L. P.

TITLE: Present-day Vertical Movements of the Coast of the Caspian Sea (Sovremennyye vertikal'nyye dvizheniya poberezh'ya Kaspiyskogo morya)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 8, pp 22-28 (USSR)

ABSTRACT: The results of the geologic-geomorphological investigations showed that the assumed velocities of the vertical movements of the earth crust at the coast of the Caspian Sea differ widely from the velocities found in the investigations carried out by A. A. Izotov (Ref 1). N. I. Foteyev and V. G. Rikhter established a hypothesis on the short-time earth crust vibrations in the area of the Caspian Sea to explain these phenomena. The new line of leveling of the 1st order, established in 1949, between Baku and Astrakhan', and the systematization and evaluation of the results of observations made in the course of many years rendered it possible to review, and add to, the present concepts of present-day movements of the coast of the Caspian Sea. The results of releveling as well as the observation of levels of seas not directly

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connected with the oceans make it possible only to determine the vertical shifts of the earth crust in two neighboring points in relation to one another. The present investigation, therefore, consisted in 1) the determination of the "absolute" velocity of one of the leveling points regarded as the base point. When selecting this point provision was made that it was connected with other bench marks by a relevel; 2) the determination of the velocity on the basis of the data obtained by level observations; 3) checking the velocity of the present movements determined on the basis of the level observations and the data of the relevel. - The basis for the determination of the "absolute" value of the velocity was Makhachkala. It was selected for a number of reasons: level observations since 1901, connected reliably by relevel with neighboring points on the Black Sea, and least mobile on the west coast of the Caspian Sea from the point of view of geology and geomorphology. It is assumed that the velocities of vertical movements of the Black-Sea coast in present times has an "absolute" character on the basis of the data of oceanographical observations obtained. V. G. Rikhter's supposition was not found true. The velocities obtained differ greatly from those

obtained by A. A. Izotov. The reason for the error to be found with Izotov seems to lie in a wrong sign. - Diagram 3 shows that a change of sign is to be found in the vibrations of the earth crust in the Makhachkala-Khurdalan section only. In the evaluation of the level observations it was found that the zero point of the levels at Baku sinks irregularly with regard to Makhachkala. The data shown in the table given at this point show that Baladzhary, Baku, and Bailov Cape are sinking at a faster rate than the rest of the Caspian-Sea coast. This was found as early as the beginning of the 20th century. These leveling operations of 1912 were repeated in 1929. The results are contained in the papers by N. N. Bol'shakov and G. F. Bregman. They are shown in the present paper schematically in figure 4. The lowering of the Surakhany, Sabunchi, and Romany oil fields is most prominent. - In order to determine the intensity of the present shift, a third leveling operation of the fixed points established in 1910-12 will have to be carried out. There are 4 figures, 1 table, and 3 Soviet references.

3(10)
AUTHORS: Sinyagina, M. I., Candidate of Technical Sciences, Fin'ko, Ye. A. SOV/6-59-9-17/19

TITLE: Conference on the Problem "Present Tectonic Movements in the Territory of the USSR"

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 9, pp 71-74 (USSR)

ABSTRACT: A conference on the problem "Present Tectonic Movements in the Territory of the USSR" took place at the Institut geografii AN SSSR (Institute of Geography of the AS USSR) in Moscow early in February 1959. At this conference, the results of the work carried out in 1958 were discussed. This work was carried out by the Tsentral'nyy nauchno-issledovatel'skiy institut geodezii, aeros"yemki i kartografii (TsNIIGAiK) (Central Scientific Research Institute of Geodesy, Aerial Surveying, and Cartography), the Institut geografii (Institute of Geography), Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (MIIGAiK)(Moscow Institute of Geodetic, Aerial Survey, and Cartographic Engineers), and the oceanographic institutes. In the conference were taking part: more than 70 representatives of the institutes of the AS USSR, of the Sibirskoye otdeleniye AN SSSR (Siberian Branch of the

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AS USSR), the Academies of Sciences of the Ukraine, Turkmeniya, Esthonia, of the Bashkirskiy filial AN SSSR (Bashkiriya Branch of the AS USSR), of the MIIGAiK, the TsNIIGAiK, of the Moskovskiy geologorazvedochnyy institut (Moscow Geological Prospecting Institute), of the Odesskiy gidrometeorologicheskiy institut (Odessa Hydrometeorological Institute), the Sverdlovskiy politekhnicheskiy institut (Sverdlovsk Polytechnic Institute), the Nauchno-issledovatel'skiy institut geologii Arktiki (Scientific Research Institute of Arctic Geology), the Vsesoyuznyy gidrogeologicheskiy trest (All-Union Hydrogeological Trust), the Kiyevskiy universitet (Kiyev University), the Permskiy universitet (Perm' University), and the Sredneaziatskiy universitet (Soviet Central Asian University). The conference was opened by Academician I. P. Gerasimov, Chairman of the Coordination Committee. He mentioned the high scientific importance of the first monograph on the present vertical motions of the earth's crust, as well as the important circumstance of the participation of Poland and Rumania in this research work. He also mentioned the participation of Yu. A. Meshcheryakov and M. I. Sinyagina at the International

Congress of Geodesy and Geophysics in Canada, 1957. S. S. Shul'ts (Laboratoriya aerometodov AN SSSR (Laboratory of Aeromethods of the AS USSR)) and N. I. Nikolayev (Moskovskiy geologorazvedochnyy institut (Moscow Geological Prospecting Institute)) delivered a report on the legend and model of the map of modern tectonics (on a scale of 1 : 2,500,000), which is being compiled for the whole territory of the USSR, and on the additional map "Present Tectonics and Seismology". M. I. Sinyagina reported on the results of work in the MIIGAiK in 1958. One of the methods of checking the rate of present tectonic motions in the west of the European part of the USSR was the calculation carried out by F. V. Antonova, Candidate for Diploma at the MIIGAiK, concerning the polygon misclosure in the leveling net of 1st and 2nd order.- G. A. Zhelnin, collaborator of the Institut fiziki i astronomii AN ESSR (Institute of Physics and Astronomy of the AS Esthonian SSR) reported on the second leveling in the state leveling net for the purpose of ascertaining the present vertical motions of the earth's crust in the area of Esthonia.- A. K. Pevnev (MIIGAiK) reported on the results of the second leveling in the area of the

Baskunchakskiy salt dome (town of Bogdo).- A. P. Bachmanov (Odesskiy gidrometeorologicheskiy institut) spoke on the systematization, evaluation, and analysis of leveling data of different years in the area of Odessa.- S. K. Gorelov and L. Ye. Setunskaya (Institut geografii AN SSSR) reported on the results of application of geological-geomorphological methods.-A. P. Rozhdestvenskiy and Yu. K. Zhurenko (Bashkirskiy filial AN SSSR) presented the results of investigations of present tectonic motions in the territory of Bashkiriya.- N. V. Dumitrashko, S. L. Kushchev, and D. A. Liliyenberg (Institut geografii AN SSSR) reported on the studies of tectonic motions in the Caucasus.- Preliminary results of the geological-geomorphological analysis of data of the second leveling were put forward in brief by the collaborators of the Institut geografii AN SSSR, A. G. Doskach (Kurgan-Irgiz line), Ye. A. Fin'ko (Semipalatinsk - Alma-Ata line), and V. A. Fil'kin (Barnaul-Semipalatinsk line).- V. V. Lomakin (Geologicheskiy institut AN SSSR) reported on the wave-like character of the motion of the earth's crust in the area of Lake Baikal.- N. P. Ladokhin (Geologicheskiy institut Sibirskogo otdeleniya

AN SSSR (Geological Institute of the Siberian Branch of the AS USSR)) described the method of studying the present tectonic movements in the Proval Gulf of Lake Baikal.- Ye. N. Pokrass reported on the investigations of present tectonic movements in the Lower Caucasus (Predkavkaz'ye) and in West Siberia by means of geomorphological methods.- A. T. Donabedov (Kompleksnaya yuzhno-geologicheskaya ekspeditsiya (Multiple-purpose South-geological Expedition)) explained the connection between the rate of present vertical motions and the gravitational anomalies.- G. A. Kon'kov (Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute)) pointed - by the example of Donbass - to the possibility of a connection between the coal- and gas discharge, on one hand, and the present tectonic movements and stresses, on the other hand. N. I. Nikolayev (MGRI) spoke "On the Nature of Present Tectonic Movements and on the Method of Studying Them in the Technical Activity of Man".- Yu. A. Meshcheryakov (Institut geografii AN SSSR) described the present state of knowledge concerning secular motions.- A. V. Zhivago (Institut geografii AN SSSR) pointed to the necessity of considering the eustatic

variations.- A. I. Durnev (MIIGAiK) spoke in favor of an extended investigation of this problem.- A. A. Izotov spoke on the critical judgment of data of the second leveling.- V. Yu. Skul'skiy (Sverdlovskiy universitet) analyzed the map of present tectonic movements in the Ural.- Yu. A. Skvortsov (Sredneaziatskiy universitet) pointed to the great possibilities of applying aeromethods to the analysis of present movements.- The Conference decided to publish the monograph "Present Tectonic Movements in the Territory of the USSR". The next conference is planned for 1961.

SINYAGINA, M.I., kand.tekhn.nauk

Study of recent vertical movements of the earth's crust in the U.S.S.R. Geod. i kart. no.7:12-17 Jl '60. (MIRA 13:9)
(Leveling) (Earth movements)

SINYAGINA, M.I.

BULLETIN GEODESIQUE

Organe de

L'ASSOCIATION INTERNATIONALE DE GEODESIE

(Union Géodésique et Géophysique Internationale)

ANNEE 1961 — N° 62 — 1er DECEMBRE 19[illegible]

SOMMAIRE

S/035/62/000/007/071/083
A001/A101

The state of knowledge on...

The data available make it nevertheless possible to notice certain regularities in manifestations of recent movements. Evidently, recent movements of the Earth's crust proceed everywhere; there are no stable regions of the crust. Prevailing intensity of recent movements is within a few mm, in individual regions were established movement speeds of the order of some cm and dm per year. The recent movements represent apparently oscillation movements; however, the problem on the period of these oscillations is still unclear. It can be presumed that duration of the period is beyond the limits of several centuries, thus the term "secular movements" can be considered as synonym of recent tectonic movements. A relation between recent movements and structural elements of the Earth's crust indicates the tectonic nature of movements: They are caused by abyssal (endogenous) processes. In the present epoch, the glacioisostatic factor affects weakly the character of movements; however, during the Holocene (last 12,000 - 15,000 years) this factor played a large role. The tasks of further studies of recent movements, conducted by the International Geodetic and Geophysical Union, are as follows: 1) Compiling summary maps of recent movements; 2) analysis of theoretical problems on regularities in manifestations of recent movements and their relation to endogenous processes; 3) studying the possibility of practical utilization of movements data

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S/006/62/000/002/001/001
D054/D113

AUTHOR: Sinyagina, M.I.

TITLE: Some basic problems of the study of present-day vertical movements of the Earth's crust.

PERIODICAL: Geodeziya i kartografiya, no. 2, 1962, 11-16

TEXT: The author suggests that a common approach should be made to the problem of studying present vertical movements of the Earth's crust and states that this could be achieved if the mean sea-level surface were accepted as a reference surface and the same method of adjusting velocity values computed by repeated levelling were used. Observations systematically carried out during the last 80-90 years showed that the deformation of the Earth's crust is mostly caused by tectonic processes which can cause either discontinuous sudden movements in seismically active regions or continuous slow movements of an oscillatory character. In the first case, repeated levelling survey is recommended. The study of movements of the

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D054/D113

Some basic problems ...

...e port type is rather more complex, as several local factors, such as the ...influence of underground water, freezing and thawing processes, must be considered. To evaluate these effects, the joint work of geologists, geodesists, oceanographers, etc., is necessary. The compilation of the velocity value maps of these movements in various countries is based on the assumption that the value and direction of this velocity over a period of approximately 50 years are constant; however, the comparison of these maps is complicated because of the different reference surfaces selected. In the USSR the mean level of the world's oceans is taken as the reference surface without any allowance for eustatic changes in this level. Other European countries have chosen different reference surfaces. This problem was studied at the Moskovskiy institut inzhenerov geodezii, aerosyemki i kartografii (Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography) (MIIGAiK). The results of observation of the level of the world's oceans published in the Transactions of the International Oceanographic Association were analyzed. They showed that the value of the velocity of these movements varied only by ± 0.2 - 0.3 mm/year over 50 or

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more years. Thus, the mean level of the world's oceans can be considered constant, the eustatic factors which influence the calculated velocity being identical for the whole world. This means that changes in the altitudes of continents represent a constant reflecting the secular movements of the Earth's crust. Therefore, the mean level of stretches of water, bordering any given continent, can be taken as a reference surface for compiling continental maps of the velocity of present-day movements of the Earth's crust. Such a uniform method of choosing the reference surface would permit determining the absolute value of velocity of these movements and comparing these values in different parts of the Earth, and would also permit reducing the error in the velocity computation by repeated survey using the same initial reference surface. The study of tables of relative velocity values determined by repeated levelling and sea-level observations, published in no. 123 of "Transactions of the TsNIIGAiK" and in an article by Gutenberg, confirms that sea-level observations cannot be distorted by systematic errors and can be used for compiling velocity value maps. The effects of eustatic variations in the level of the world's oceans must be determined by special study and analysis of the results of sea-level obser-

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[illegible] problems ...

[illegible]nations. The choice of reference surface is directly connected with the [illegible]ment of the method of adjusting the velocity values computed from data obtained by repeated levelling processes. In the USSR, these values computed from the well-known formula

$$v = \frac{n_2 - h_1}{n} \text{ mm/year}$$

were adjusted in circuits and between the points of sea-level observations. Those values obtained by similar methods and for similar time intervals were considered as initial values. The author considers the Soviet method simpler and more reliable than those used in other European countries.

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SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I. Prinimal uchastiye SINYAGINA, V.I.; KOMAR'KOVA, L.M., red.izd-va; ROMANOVA, V.V., tekhn. red.

[Instructions for 1st, 2d, 3d, and 4th-class leveling] Instruktsiia po nivelirovaniiu I, II, III, i IV klassov. 4 izd. dop. i ispr. Moskva, Gosgeoltekhizdat, 1963. 110 p. (MIRA 16:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

(Leveling)

L 22398-66 EWT(i) GW

ACC NR: AT6011137 SOURCE CODE: UR/3197/65/000/002/0032/0037

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B+1

AUTHOR: Sinyagina, M. I.

ORG: Moscow Institute of Geodetic, Aerial Surveying and Cartographic Engineers (Moskovskiy institut inzhenerov geodezii, aerofotos "yemki i kartografii)

TITLE: Principles of designing a map of the rate of contemporary movements in a large area

SOURCE: AN EstSSR. Institut fiziki i astronomii. Sovremennyye dvizheniya zemnoy kory. Recent crustal movements, no. 2, 1965, 32-37

TOPIC TAGS: geophysical conference, geodetic conference, leveling, map compilation, tectonic map

ABSTRACT: The author discusses problems involved in compiling a map covering a large area which shows the rates of movements of the earth's crust. The main problem is defined as the analysis, sytematization, and adjustment of existing repeated leveling lines run by various nations, based on different datums, of different quality, performed in different types of terrain with different procedures and instruments, and the connection of these lines to lines still to be laid out.

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The need for uniform data processing is emphasized, and a formula is recommended for use in determining weighted values. The desirability of carrying out preliminary geological and geomorphological studies to be used as guides for regional adjustments of leveling nets is emphasized. Orig. art. has: 1 formula. [ER]

SUB CODE: 08/ SUBM DATE: none

Card 2/2 dda

KARLINSKAYA, M.I.; SINYAGINA, M.N.

Telemechanization of city gas supply systems. Gaz. prom. no.6:15-20 Je '56. (MLRA 9:12)
(Gas distribution) (Remote control)

PHASE I BOOK EXPLOITATION 1137

Sinyagina, M.N. and Magnichkina, V.P.

Ispol'zovaniye beskontaktnykh i chastotnykh elementov v kommunal'nom khozyaystve (Use of Contactless and Frequency Devices in Municipal Services) Moscow, Izd-vo Min-va kommunal'nogo khozyaystva RSFSR, 1957. 120 p. 1,500 copies printed.

Sponsoring Agency: Akademiya kommunal'nogo khozyaystva.

Ed. (Title page): Karlinskaya, M.I.; Ed. (Inside book): Bashkirov, L.G.; Tech. Ed.: Konyashina, A.D.

PURPOSE: This book is intended for scientists and engineers working in municipal services.

COVERAGE: The authors describe contactless devices of remote control and signalling systems for controlling a small number of regulators. They also describe certain types of contactless and frequency devices which may be used in automatic control, remote control and signalling circuits of municipal systems. The book explains the basic theoretical principles of the application of relay

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circuits in automatic and telemechanical systems with contactless equipment. The authors describe the theoretical fundamentals of designing frequency devices and new types of frequency and contactless relays. They give examples of remote control systems using contactless and frequency devices. There are 20 references, of which 13 are Soviet (including 1 translation), and 7 English.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TK2861.S5)

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GAYNIYEV, S.S., dots.; KIRILLOVA, A.A., dots., glav. red.; BLAGOVESHCHENSKAYA, N.N., dots., red.; SINYAGINA, N.P., st. prepod., red.

[Vertebrates of Ul'yanovsk Province] Pozvonochnye zhivotnye Ul'ianovskoi oblasti. Ul'ianovsk, Gos. pedagog. in-t, 1959. 74 p. (MIRA 16:10)

(Ul'yanovsk Province--Vertebrates)

SINYAGINA, T.M.

Bottom fauna of Tashkepri Reservoir. Trudy Murg.gidrobiol.sta. no.4:183-215 '58. (MIRA 15:8)
(Tashkepri Reservoir--Benthos)

SINYAGINA, T.M.

New species of tendipedid larvae of the subfamily Orthocladiinae from some bodies of water of Turkmenistan. Trudy Murg.gidrobiol. sta. no.4:228-230 '58. (MIRA 15:8)
(Turkmenistan--Chironomidae)

SINYAGINA, V.A., kand. tekhn. nauk.

Analysis of the results of first-class leveling in the Soviet Union. Trudy TSNIIGAIK no.114:17-52 '57. (MIRA 11:3)
(Leveling)

SINYAGINA, V.I.

ENTIN, I.I.; SINYAGINA, V.I.; YELISEYEV, S.V., kandidat tekhnicheskikh nauk, redaktor

[High-accuracy surveyor's NB level] Vysokotochnyi nivelir NB. Moskva, Izd-vo geodezicheskoi i kartograficheskoi lit-ry, 1953. 118 p. (MLRA 7:8)
(Surveying--Instruments)

SINYAGINA, V. I.

"Principal Systematic Errors in Class I Leveling." Cand Tech Sci, Moscow Inst of Engineers of Geodesy, Aerial Photography, and Cartography, Min Higher Education USSR, Moscow, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

SUDAKOV,S.G.; ALEKSANDROV,T.F.; BAGROV,M.A.; BULANOV,A.I.; KAMENSKAYA,M.V.; KUZ'MIN,B.S.; LITVINOV,B.A.;SINYAGINA, M.I.; TIMOFEYEV,A.A.; ENTIN,I.I.; SINYAGINA,V.I.

[Instructions for class I,II,III and IV leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Moskva, Izd-vo geodezicheskoi lit-ry, 1955. 106 p. (MLRA 9:3)

1. Russia (1923- U.S.S.R.)Glavnoye upravleniye geodezii i kartografii. (Leveling)

ENTIN, Isay Il'ich; SINYAGINA, Vera Ivanovna; YELISEYEVA, S.V., kandidat tekhnicheskikh nauk, redaktor; VASIL'YEVA, V.I., redaktor; KUZ'MIN, G.M., tekhnicheskiy redaktor.

[High-precision level "NB"] Vysokotochnyi nivelir "NB". Izd.2-oe Pod obshchei red. S.V.Yeliseyeva. Moskva, izd-vo geodezicheskoi lit-ry, 1956. 114 p. (MLRA 9:6)
(Level (Tool))

SINYAGINA, V.I., kandidat tekhnicheskikh nauk.

Accumulation of systematic errors in 1st class leveling. Geod.i kart. no.4:69-71 Je '56. (Leveling) (MLRA 9:10)

SINYAGINA, V. I.

"Geodetic Testing of the SVV-1 Light Range Finder," by I. I. Entin and V. I. Sinyagina, Geodezia i Kartografiya, No 4, Apr 57, pp 9-17

The article gives a complete report on geodetic field tests carried out by the Central Scientific Research Institute of Geodesy, Aerophotography and Cartography (TsNIIGAiK) in 1956 on the SVV-1 light range finder. This instrument is manufactured by the Scientific Research Experimental Workshop (NIEM) of TsNIIGAiK according to drawings made by the Scientific Research Institute of the Military Topographic Service (NII VTS).

In the field tests, data was compiled for the purpose of increasing the accuracy of measurement control methods with the SVV-1 instrument and of establishing the possibility of using "polygonometry" in the construction of a geodetic net with a light range finder.

The article includes a drawing of a previously constructed triangulation net, on which the tests were based, and several tables which give comparative measurements and show the relative errors.

The authors state that, whereas the results of the tests were encouraging, further tests with the light range finder are necessary before a complete solution to the problem can be obtained.

It is further stated that the SVV-1 itself needs to be further improved, for example by increasing the power of the illuminating lamp, and thereby its operating distance, and by simplifying and reducing the weight of the electric power supply system. "Together with the improvement of the light range finder SVV-1, it is necessary to work persistently on the creation of a light range finder with photoelectric indication, since this extremely facilitates measurement and permits a reduction in the size of the staff."

Four photographs appear in the article: Photo No 270567 and Photo No 270568 give two views of the range finder; Photo No 270569 shows a view of the wave meter; and Photo No 270570 shows a large and one of two small reflectors. (U)

Sum in 1451

AUTHORS: Entin, I. I., Candidate of Technical Sciences, SOV/6-58-8-2/15
Sinyagina, V. I., Candidate of Technical Sciences

TITLE: Accurate Traverse Surveying by Means of an Optical Telemeter (Tochnaya svetodal'nomernaya poligonometriya)

PERIODICAL: Geodeziya i kartografiya, 1958, Nr 8, pp. 8-19 (USSR)

ABSTRACT: The use of the optical telemeter SVV-1 for the building-up of a geodetical frame-network of 2. and 3. order by the method of traverse surveying yielded positive results. The Central Scientific Research Institute for Geodesy, Aerial Photography and Cartography erected a network of traverse surveying of considerable size in the southern steppe-region of the Ukrainian SSSR in the summer of 1957. The major part of the points of traverse surveying coincided with the points of the network of triangulation of 2. class, which was established in 1951 by the Aerial Geodetical Organization of the Ukraine (Ref 1). The trial sample of the optical telemeter SVV-1 (1956) was improved and completed in 1957 by A. I. Demushkin, a collaborator of the aforementioned Institute. The most important improvement was the change of the system of electrical supply, which is now brought about by a

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field electrical power plant "Kiyev-2". In this way accumulators and selenium rectifiers have become superfluous and the weight of the apparatus was reduced by 160 kg. The construction of the output circuit in the high-frequency generator which feeds the Kerr-condensers was also improved. Several drawbacks discovered already in 1956 could not be removed. Improvement was also brought about by lens-mirror-reflectors (recommended already at an earlier date by V. A. Velichko and Ye. A. Chudina). They were produced at the NIEM TsNIIGAiK. The accuracy of the measuring of the length of lines is investigated, and it is shown that the measurements of distances carried out by optical means in 1957 were free from systematic errors. The angles at the points of traverse surveying were measured by means of optical theodolites Th-B Zeiss (Tseyss) and OT-02. The accuracy attained is mentioned. Balancing traverse survey by means of optical telemeters was carried out in three various ways for experimental reasons. Work was carried out by the calculating department of the Moscow Institute of Aerial Geodesy. A detailed description of this process of balancing is given and

a number of conclusions is drawn on the basis of the tables given. The data and conclusions given in the present paper may contribute towards a further theoretical development of the structural scheme of geodetical frame-networks of 2. and 3. order in form of a traverse survey with the aid of optical telemeters as well as towards the planning of a construction of frame-networks by means of this method in open, half-open, and even in closed areas. There are 1 figure, 13 tables, and 2 references, which are Soviet.

1. Geodesics--Equipment 2. Optical instruments--Applications
3. Optical instruments--Performance 4. Mapping

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I.. Prinimala uchastiye SINYAGINA, V.I.. ROMANOVA, V.V., tekhn.red.

[Instructions for first-, second-, third-, and fourth-order leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Izd.3, ispr. i dop. Moskva, Izd-vo geod.lit-ry, 1959. 111 p. (MIRA 13:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

(Leveling--Handbooks, manuals, etc.)

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I. Prinimal uchastiye SINYAGINA, V.I.; KOMAR'KOVA, L.M., red.izd-va; ROMANOVA, V.V., tekhn. red.

[Instructions for 1st, 2d, 3d, and 4th-class leveling] Instruktsiia po nivelirovaniiu I, II, III, i IV klassov. 4 izd. dop. i ispr. Moskva, Gosgeoltekhizdat, 1963. 110 p. (MIRA 16:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

(Leveling)

SOV/149-58-5-7/18

AUTHORS: Antipin, L.N., Vazhenin, S.F. and Sinyagov, A.A.

TITLE: The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite/Alumina Melts and Its Effect on the Electrical Conductivity of the System (Vliyaniye kharaktera elektroliticheskogo okisleniya uglerodistogo anoda v kriolito-glinozemnykh rasplavakh na yego elektroprovodnost')

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 5, pp 62 - 68 (USSR)

ABSTRACT: The object of the present investigations was to study the variation of the electrical conductivity of the systems carbon anode/cryolite + alumina, and carbon anode/cryolite + alumina/metallic aluminium, which were polarised by a DC current so as to obtain data on the optimum current density in electrolytic extraction of aluminium. The conductivity measurements were carried out with the aid of a modified version of a resistance bridge described by Abramov and Vetyukov (Ref 10) which made it possible to reduce to minimum the effects of the inductive and self-capacitance coupling on the experimental results. A sketch of the apparatus used and the circuit diagram

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The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

are reproduced in Figure 1. The experimental conditions were similar to those employed by the authors in their earlier investigations (Refs 8, 9). A graphite crucible constituted the cathode (Detail 7, Figure 1) and in addition to the current-carrying, graphite anode (Detail 6, Figure 1) there was an inner, concentric with it, unloaded, graphite electrode (Detail 5, Figure 1). The experiments consisted of measuring the conductivity between (a) the anode and the inner electrode and, (b) the anode and the cathode under various conditions of the current density, electrolyte composition (the molecular NaF/AlF_3 ratio), with and without the presence of metallic aluminium. Two measurements were made at each value of the current density: one with the DC current on and one immediately after the current was switched off. (Before switching off the current, the anode was polarised for 3 minutes.) Since the shape of the curve showing the relationship between the conductivity of the system and the current density was not affected by the NaF/AlF_3 ratio

of the electrolyte, the results reproduced in the present report are based on the mean values of the data obtained for various experimental compositions of the electrolyte. The variation of the electrical conductivity of the system graphite electrode/cryolite with the current density is illustrated in Figure 2 (graph 1 - current on, graph 2 - current off). In Figure 4, the experimental results for the systems graphite anode/cryolite/metallic aluminium and graphite anode/cryolite (graphs 1 and 2 respectively) are compared with those calculated from the data obtained by Antipin in the course of another investigation (graph 3). It is shown that in the presence of metallic aluminium the variation of conductivity of the system with the current density is markedly altered. The results of the measurements in the system anode/electrolyte/metallic aluminium are reproduced in Figure 4 (graph 1 - current on, graph 2 - current off). Within the current density range

 0 - 0.3 A/cm^2 the conductivity of the system decreased

slowly. At 0.3 A/cm^2 there was a sudden drop in conductivity which then continued to decrease (at a slower rate) with increasing current density. Although the variation of the conductivity of the system graphite electrode/electrolyte/dissolved aluminium was different from that observed in the system graphite electrode/electrolyte, in both cases the relationship conductivity/current density deviated from monotonic at 0.1, 0.3 and 0.9 A/cm^2. For any current density the conductivity was higher when no current was passing through the system. The total decrease of conductivity within the 0 - 1.1 A/cm^2 current-density range amounted to 80%. Conductivity measured between the anode and the cathode varied in the same manner, except that with the current on, it decreased more rapidly with the increasing current density. To check whether the studied relationship was affected by the anode material, the variation of conductivity of the systems heat-resistant steel/electrolyte and steel/electrolyte/metallic aluminium was also determined, the

The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

results being reproduced in Figure 5. In both cases, linear variation of conductivity was observed. In the steel/electrolyte system it increased with the increasing current density, while in the presence of metallic aluminium it decreased. This proved that the variation of conductivity observed in the systems incorporating graphite anodes was confined to the anodes and that - as had been postulated before (Refs 1, 7, 11) - the changes of conductivity occurring at the characteristic values of the current density (0.1, 0.3 and 0.9 A/cm^2) are caused by the action of anodic oxygen (the interesting fact is that presence of oxygen in the lattice of the graphite anode results in an increase in conductivity in the 0 - 0.3 A/cm^2 current density range). The minimum on the conductivity curve at 0.9 A/cm^2 is attributed to a high concentration of the carbon particles in the

The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

immediate neighbourhood of the anode; at higher current densities these particles become distributed uniformly throughout the electrolyte and the conductivity of the system increases. It is postulated that the change in the conductivity/current density relationship in the presence of metallic aluminium is associated with the interaction between lower valency cations (Al^{+} and Na_2^{+}) with the oxygen chemisorbed on the carbon surface. There are 5 figures and 12 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut. Kafedra metallurgii legkikh metallov (Ural Polytechnical Institute. Chair of Metallurgy of Light Metals)

SUBMITTED: April 28, 1958

18(4),5(1),8(0)

AUTHORS: Antipin, L. N., Vazhenin, S. F., Sinyagov, A. A. SOV/163-59-1-11/50

TITLE: Influence of Current Density Upon the Electric Conductivity of the System Carbon Electrode-Kryolithe Melt-Dissolved Aluminum (Vliyaniye plotnosti toka na elektroprovodnost' sistemy uglerodistyy elektrod-kriolitovyy rasplav-rastvorennyy alyuminiy)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 1, pp 48-52 (USSR)

ABSTRACT: The bridge circuit described by Abramov and Vetyukov (Ref 8) served as the basis of the measurements carried out in this investigation. Into this circuit additional capacities were introduced. They prevent the direct current from entering the input of the amplifier and the high-frequency generator. A reactive coil was inserted to avoid a short-circuiting of the alternating current caused by the control resistance. A VSA-8 selenium rectifier was used as a direct current source. The measuring instrument was identical with that used in the work by Antipin, Vazhenin, and Sucherbakov, cited by reference 1. The conductivity was measured between the outside electrode

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serving as an anode and the inside electrode (carrying no current load), and between the anode and the graphite crucible serving as a cathode. The experiments showed that the variation of the electric conductivity of the system anode-electrolyte-dissolved metal differs from that of the system without metal if the current density at the anode is increased. In both cases, however, deviations from the monotonous course of the curves were found at current densities of 0.1, 0.3, and 0.9 amps/cm^2. In the range of 0 to 1.1 amps/cm^2 the electric conductivity drops by 80 %. When the conductivity was measured between the anode and the cathode, a similar relationship was found, with only the difference that the conductivity decreases much more rapidly if the current is switched on. The graphite electrodes were replaced by metal electrodes (of heat resisting steel) as to solve the problem whether the material of the electrodes influences the nature of the conductivity versus current density function, and whether the rules found to govern the behaviour of graphite electrodes are specific only to them. The results of the investigation show that in this case the conductivity varies as the current

density. If a metal is introduced into a system with a metal electrode, this relationship becomes reciprocal. The experiments showed that the complicated nature of the course taken by the conductivity versus current density function in the system electrode-electrolyte and electrode- electrolyte- dissolved metal is determined by the processes occurring in the carbon anode. A comparison of the results of the present paper with those from earlier papers (Refs 3-7) lead to the conclusion, that the pronounced variations of conductivity at current densities of 0.1, 0.3, and 0.9 amps/cm^2 are connected with the interaction of carbon and oxygen. There are 3 figures and 8 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute)

SUBMITTED: April 14, 1958

LAVRUSHIN, V.F.; TOLMACHEV, V.N.; TRUSEVICH, N.D.; SINYAGOVSKAYA, L.A.

Interaction of α,β-unsaturated ketones with trichloroacetic acid. Zhur. ob. khim. 35 no.10:1730-1734 O '65. (MIRA 18:10)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo.

LAVRUSHIN, V.F.; TOLMACHEV, V.N.; SINYACOVSKAYA, L.A.; TRUSEVICH, N.D.

Interaction of α,β, -unsaturated ketones with trichloroacetic acid. Zhur. ob. khim. 35 no.9:1534-1538 S '65. (MIRA 18:10)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo.

SINYAGOVSKAYA, Z.N.

Results of the use of dry quinosol medium for the bacteriological diagnosis of diphtheria. Zhur.mikrobiol., epid. i immun. 42 no.3: 134 Mr '65. (MIRA 18:6)

1. Sanitarno-epidemiologicheskaya stantsiya, Yurga.

KOLYADA, G.; MAZUR, A.; SINYAGOVSKIY, A. (Shostka, Sumskaya oblast')

Easy to understand and to visualize... Pozh.delo 6 no.6:24 Je '60. (MIRA 13:7)

1. Zamestitel' nachal'nika pozharnogo otryada, Makeyevka, Stalinskaya oblast' (for Kolyada). 2. Nachal'nik pozharnoy chasti, L'vov (for Mazur).

(Fire prevention--Study and teaching)
(Visual aids)

L 60218-65 EWT(1)/EWG(v) Pe-4/Pe-5/Pa-4/[illegible] GW

ACCESSION NR: AP5019055 UR/0286/65/000/012/0083/0083

AUTHORS: Kheyfets, M. Ye.; Malakhov, B. M.; Slivin, Yu. A.; Sinyagovskiy, B. P.; Yefimov, B. V.

TITLE: A method for measuring the force of gravity at sea. Class 42, No. 172068

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 83

TOPIC TAGS: gravitation, gravitation field, gravity acceleration, gravimeter

ABSTRACT: This Author Certificate presents a method for measuring the force of gravity at sea with a gravimetric apparatus stabilized in the plane of the absolute horizon. The apparatus moves in respect to the ship under the influence of the impinging horizontal accelerations. To simplify the compensating devices, to improve the accuracy of measurements taken with the apparatus, and to make the operations possible in rough seas, the gravimetric apparatus (the sensitivity of which to the fluctuating horizontal gravity accelerations changes in various directions from zero to some maximum value) is so oriented that the direction of its maximum sensitivity to the horizontal acceleration becomes parallel to the greatest component of the ship's horizontal accelerations. The apparatus is then moved only in this direction under the action of the gauges indicating the horizontal

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ACCESSION NR: AP5019055

acceleration and its first derivative. The gauges are placed on the apperatus and on its unstabilized support.

ASSOCIATION: none

SUBMITTED: 14May64 ENCL: 00 SUB CODE: ES, IE

NO REF SOV: 000 OTHER: 000

Card 2/2 dm

FEYGEL'SON, I.B.; GABRIELYAN, A.G.; SINYAGOVSKIY, I.N.

Distribution of saturation pressure in the B_1 layer of the Zhirnovsk oil field. Neft.khoz. 37 no.3:47-49 Mr '59. (MIRA 12:5)

(Stalingrad Province--Oil reservoir engineering)

GABRIELYAN, A.G.; SINYAGOVSKIY, I.N.

Some unsolved problems in oil-field development. Geol. nefti i gaza 5 no. 5:8-12 My '61. (MIRA 14:4)

1. Stalingradskiy sovnarkhoz i Stalingradskiy nauchno-issledovatel'skiy neftegazovyy institut.
(Oil fields—Production methods)

FANIYEV, R.D., kand.tekhn.nauk; KLYAROVSKIY, G.V., kand.tekhn.nauk; SINYAGOVSKIY, I.N., inzh.

Method for accurate evaluation of producible reserves in solution gas drive. Nauch. zap. Ukrniiproekta no.9:83-90 '62. (MIRA 16:7)
(Petroleum production)

SINYAGOVSKIY, I.N.; KHARLANOV, V.A.; YAKUNIN, I.A.

The practicability of pattern flooding of the oil pools of the Upper Bashkir horizon of the Zhirnovsk and Bakhmet'-yevskoye fields. Trudy VNIING no.2:48-51 '63. (MIRA 17:5)

SINYAGOVSKIY, I.N.; SOBOLEV, V.I.; YAKUNIN, I.A.

Improvement of the system of the development of the petroleum and gas pools of the coal-bearing stratum of the Korobkovo field. Trudy VNIING no.2:52-64 '63. (MIRA 17:5)

ZAGORUYKO, A.A.; SINYAGOVSKIY, I.N.; KHARLANOV, V.A.; YAKUNIN, I.A.

Further development of the oil-and-gas-bearing pool in stratium B_1 of the Bakhmet'yevskoye field. Trudy VNIING no.2:65-70 '63. (MIRA 17:5)

SINYAGOVSKIY, I.N.; KHARLANOV, V.A.; YAKUNIN, I.A.

Practicability of the pattern flooding of the oil pools of the Upper Bashkirian horizon of the Zhirnovsk and Bakhmet'yevka oil fields. Trudy VNIING no.2:48-51 '63.

(MIRA 17:10)

SINYAGOVSKIY, I.N.; SOBOLEV, V.I.; YAKUNIN, I.A.

Improving the development of the oil and gas pool of a coal-bearing series in the Korobkovskoye oil field. Trudy VNIING no.2:52-64 '63. (MIRA 17:10)

ZAGORUYKO, A.A.; SINYAKOVSKIY, I.N.; KHAMLANOV, V.A.; YAKUNIN, I.A.

Further development of the oil and gas pool in reservoir B, of the Bakhmet'yevka oil field. Trudy VNIING no.2:65-70 '63. (MIRA 17:10)

PHASE I BOOK EXPLOITATION 850

Sinyagovskiy, Ivan Stepanovich

Soprotivleniye materialov (Strength of Materials) Moscow, Sel'khozgiz, 1958. 431 p. (Series: Uchebniki i uchebnyye posobiya dlya vysshikh sel'sko--khozyaystvennykh uchebnykh zavedeniy) 15,000 copies printed.

Ed.: Letnev, B. Ya.; Tech. Ed.: Fedotova, A.F.

PURPOSE: This book is approved as a textbook for students of institutes and departments of agricultural mechanization by the Main Administration of Agricultural Vuzes of the Ministry of Agriculture of the USSR.

COVERAGE: The author states that this textbook represents the first attempt to present a course on strength of materials for the use of schools with departments of agricultural mechanization. This course considers: a) physical and mechanical properties of soil

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and crops, b) special materials used in agriculture, which are seldom described by standard textbooks on the strength of materials, and c) special features and conditions of operation of agricultural machinery. The author expresses thanks to Prof. Ye.M. Gut'yar, Prof. M.A. Pustygin, Doctor of Technical Sciences, and to A.A. Chapkevich, Candidate of Technical Sciences, for their help in editing this book. He also thanks his colleagues of the MIMESKhfor their review of the manuscript. There are 125 references, 115 of them Soviet, 5 English, 2 Czechoslovak, 1 German, 1 Polish, and 1 Rumanian.

TABLE OF CONTENTS:

SINYAGOVSKIY, I.S., dotsent, kand.tekhn.nauk

Strength analysis in case of cyclic loads. Trudy MIMESKH 4 no.1:73-79 '59. (MIRA 13:10)

(Strength of materials)

SINYAGOVSKIY, I.S., kand.tekhn.nauk, dotsent

History of the development of scientific studies on the resistance of materials. Trudy MIMESKH 8:3-15 '59. (MIRA 13:9)
(Strength of materials)

BALOVNEV, G.G., kand.tekhn.nauk, dots.; SINYAGOVSKIY, I.S., kand.tekhn. nauk, dots.; TROFIMOV, G.S., inzh.

Experimental investigation of the strength and rigidity of thin-walled bent sections. Trudy MIIMKKH 9:129-144 '59. (MIRA 13:11)
(Elastic plates and shells)

BALOVNEV, G.G., kand.tekhn.nauk; SINYAGOVSKIY, I.S., kand.tekhn.nauk; TROFIMOV, G.S., inzh.

Experimental investigation of the strength and rigidity of thin-walled bent sections. Trakt.i sel'khozmash. no.1:26-29 Ja '60. (MIRA 13:4)
(Elastic plates and shells)

SINYAGOVSKIY, I.S., dots.; TROFIMOV, G.S., inzh.

Simplifying the design of thin-walled bent rods. Trudy MIMESKH (MIRA 13:9)
12:244-251 '60.
(Elastic rods and wires)

BALOVNEV, G.G., dots.; SINYAGOVSKIY, I.S., dots.; TROFIMOV, G.S., inzh.

Experimental investigation of efficient shapes for thin-walled bent sections. Trudy MIMESKH 12:252-258 '60. (MIRA 13:9)
(Girders--Testing)

S/032/60/026/011/022/035
B004/B067

18820

AUTHORS: Silkin, Ye. A., Zasova, A. F., and Sinyagovskiy, I. S.

TITLE: Methods of Stress Determination in the Impact Bending Test

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11, pp. 1289 - 1292

TEXT: The authors deal with two problems. 1) Direct calibration of the piezoquartzes on the ДСВО-150 (DSVO-150) impact machine. First the bending of a sample by means of a device described earlier (Ref. 1) is measured and, subsequently, the stress at which the same bending occurs is determined by means of a ДС-05 (DS-05) dynamometer. The maximum stress applied to the piezoquartzes is 400 kg/cm^2. 2) The theoretical assumption that the total energy A_o of the impact is transformed into the potential energy U_o of the deformation, is incorrect. The equation $U_o = \eta A_o$ was obtained by measurements made by the authors. The equations $\eta = 0.066\sqrt{E_2\delta}$ (E_2 modulus of elasticity of the sample, δ its bending) which are

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Methods of Stress Determination in the Impact Bending Test

S/032/60/026/011/022/035
B004/B067

sufficiently accurate for practical purposes, and $\eta = 0.056\sqrt{(2 - V_0)E_2\delta}$ by taking account of the impact velocity V_0 are suggested for determining the factor η. L. T. Timoshuk and Yu. S. Tomenko are mentioned. There are 4 figures and 11 Soviet references.

ASSOCIATION: Moskovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (Moscow Institute of Rural Mechanization and Electrification)

Card 2/2

SINYAGOVSKIY, Ivan Stepanovich; DVOYEGLAZOVA, Anastasiya Dmitriyevna; ZASOVA, Antonina Fedorovna; BALOVNEV, Georgiy Grigor'yevich; SHELKOV, N.I., red.; GOROKHOVA, S.S., tekhn. red.

[Manual for laboratory work on the resistance of materials] Rukovodstvo k laboratornym rabotam po soprotivleniiu materialov, Moskva, Gos.izd-vo "Vysshaia shkola," 1961. 181 p.
(MIRA 15:2)

(Materials—Testing)

SINYAGOVSKIY, I.S., kand.tekhn.nauk, dotsent; TROFIMOV, G.S., kand. tekhn.nauk

Reducing the weight of agricultural machinery and equipment [with summary in English]. Izv. TSKhA no.2:198-200 '61. (MIRA 14:8)

(Agricultural machinery)

KABAT, G.V., inzh.; SINYAGOVSKIY, I.S., kand.tekhn.nauk; DVOYEGLAZOVA, A.D., kand.tekhn.nauk

Investigating thin-walled bent sections subjected to repeated variable loads. Trakt.i sel'khozmash. 31 no.8:28-32 Ag '61. (MIRA 14:7)

1. Moskovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

(Beams and girders)

S/137/63/000/002/025/034
A006/A101

AUTHORS: Silkin, Ye. A., Sinyagovskiy, I. S., Zasova, A. F.

TITLE: Investigating the process of carbon steel failure under the effect of repeated alternating impact loads and substantiating the selection of permissible service life

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2,1963, 48, abstract 2I268 ("Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva", 1962, no. 73, 323 - 335)

TEXT: The authors investigated the duration of the fatigue period until the appearance of cracks (period N_1) and the duration of the propagation of a fatigue crack (period N_2) under the effect of repeated alternating impact loads on specimens 15 mm in diameter (100 mm length of the operational part) of Ст.3 (St.3), 45, and У-8А (U-8A) steels. The duration of period N_1 depends upon σ_w and the strength of the investigated material (the higher σ_w the higher N_1). The duration of N_2 depends upon a_k of the material (the higher a_k the greater N_2). The operation of parts can be considered to be safe until the moment when the

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fatigue crack spreads over about 1.5% of the total sectional surface of the part. The permissible operational number of cycles at impact loads can be determined from the correlation $N_{perm} = (n+m)N$ where N is the number of cycles until the breakdown, $nN-N_1$ is the number of cycles until the appearance of fatigue cracks, $mN-N_2^1$ is the number of cycles until the moment when the crack surface attains a value of 0.01 - 0.015 of the total area of the section. For the aforementioned steels $N_{perm} = 0.8$ N.

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[Abstracter's note: Complete translation]

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